

**WHAT IS CLAIMED IS:**

1. A rotary toothbrush comprising:
  - a) a housing;
  - b) a brush that is rotatably attached to the housing; and
  - c) a motor that is installed inside the housing and rotates the brush;wherein the brush comprises a first end that is rotatably attached to the housing, and a second end that is opposite to the first end, wherein the diameter of the brush increases toward the second end.
2. The rotary toothbrush of claim 1, wherein the motor selectively rotates the brush either clockwise or counterclockwise.
3. The rotary toothbrush of claim 2, wherein the motor is powered by an electric battery.
4. The rotary toothbrush of claim 2, wherein the motor is powered by household alternating current.

5. The rotary toothbrush of claim 1, wherein the diameter of the brush linearly increases from the first end to the second end.
6. The rotary toothbrush of claim 5, further comprising a shaft that connects the brush and the motor.
7. The rotary toothbrush of claim 6, wherein rotational speed of the shaft is adjustable.
8. The rotary toothbrush of claim 6, further comprising a cover that partially covers the brush in an arc when it is viewed in a plane perpendicular to the shaft.
9. The rotary toothbrush of claim 8, wherein the size of the arc is in a range from about 45° to about 180°.
10. The rotary toothbrush of claim 1, wherein the diameter of the brush exponentially increases from the first end to the second end.
11. The rotary toothbrush of claim 10, further comprising a shaft that connects the brush and the motor.

12. The rotary toothbrush of claim 11, wherein rotational speed of the shaft is adjustable.
13. The rotary toothbrush of claim 11, further comprising a cover that partially covers the brush in an arc when it is viewed in a plane perpendicular to the shaft.
14. The rotary toothbrush of claim 13, wherein the size of the arc is in a range from about 45° to about 180°.
15. The rotary toothbrush of claim 1, wherein the brush further comprises a portion that has a constant diameter near the second end.
16. The rotary toothbrush of claim 15, further comprising a shaft that connects the brush and the motor.
17. The rotary toothbrush of claim 16, wherein rotational speed of the shaft is adjustable.
18. The rotary toothbrush of claim 16, further comprising a cover that partially covers the brush in an arc when it is viewed in a plane perpendicular to the shaft.

19. The rotary toothbrush of claim 18, wherein the size of the arc is in a range from about 45° to about 180°.